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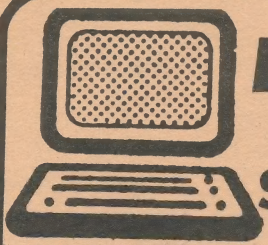

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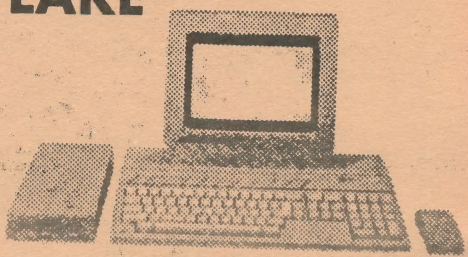

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EDITORS PAGE

Welcome Back. We hope you enjoy this instalment in the continuing saga of the Atari ST brought to you by the staff of ASTUN and the wonderful clubs and users in this bright beautiful world.

This month we have chosen as a topic of discussion desktop publishing.

There is now available a number of product for the ST computer that has been designed to assist in the preparation of paper documents. Some are dedicated to one or two functions while others are useful in a large variety of ways. At ASTUN we use ST-Writer and TextPro to prepare our articles and the import them into Publishing Partner. We feel this is the best program available to date for laying out of this newsletter. In general we like the program and have only a few complaints. We have appended our wish list to the Publishing Partner review found in the pages of this issue. We find that using some of the standard graphics programs such as Degas and NeoChrome along with the above mentioned programs we can obtain most of what we are trying to accomplish. We also find MaxPak and indespensible utility program. This program contains several very useful desk accessories. We seldom boot the computer without it.

Another full featured program that should be available soon is Fleet Street Editor. Softlab is also coming out with LaserType, a program that will utilize the Hellet Packard LaserJet+. Publishing partner requires a more expensive printer having postscript on board. They have however promised driver for other laser printers in the future. They will definitely support the forthcoming Atari laser printer.

Other programs such as TypeSetter Elite, Graphics Artist and Easy Draw can also be utilized in general desktop publishing duties. Programs such as Degas, NeoChrome, and Print Shop have their place for specialized applications in the publishing world.

This issue has reviews featuring some of the products already available for the ST to assist the desktop publisher. We are sure that there are many other products that can be used in this field that we have not seen, or did not have space to review at this time. We feel however that desktop publishing will be one of the ST computers strong points so we will have more to say on this subject in coming issues.

The next issue of ASTUN will feature products from the Saltlake AtariFest.

One last minute note. By the time you read this ASTUN should have its own BBS on line. We felt that we needed to replace the loss of the WOS BBS. Rather than use an existing BBS we will be starting our own. The former WOS system operater has donated his BBS software. In the next issue of ASTUN we will print more details about its operation, as well as access information.

Call Waiting Hang-ups?

by Randy Larsen

Modem users fall into two major groups:

1

They pay the phone company extra money for the premium service "Call Waiting", dial their favorite computer BBS's and then get a call on their "other line" and get bumped off their connection and make the SysOp leave them mean and nasty notes about logging off properly and they curse their long distance and Compuserve bills for those calls that were disconnected or,

2

They enjoy telecommunications because they don't have "Call Waiting".

Now, there is a way to combine the groups so that even those that have "Call Waiting" can enjoy telecommunications, too.

If the phone company's switching office that serves your residence or business offers premium calling services (such as Call Waiting) you probably now have the capability to disable "Call Waiting" for the period of one phone call and then have it automatically re-enable itself when your call is through.

Let's try it. Pick up any phone in your house that dials true Touch-Tone and press these buttons in equence: * 70 (1170 for Rotary Dail Phones). That star is the asterisk in the lower left corner by the zero. When you have dialed 'star' 'seven' 'oh', you will get another dial tone. You are free now to dial any phone number and for the duration of that call you will not be interrupted by your other line.

For modem users, this means no more getting knocked off the system you are using. If your modem and software allow autodialing, just include these three digits and a pause before all the numbers you call. Some software also will dial a "long distance access" code for the numbers you specify. Just place these numbers (and a pause) at the beginning of this access code. Just think of how proud your favorite SysOp will be when you log off his board properly.

This technique is not only for when you telecommunicate by computer. When you make that important long distance or even local call and wish not to be interrupted even by the "beeps" that signal you of a call on the other line, start the call with "* 7 0". Yes, people who call you will get the busy signal, but isn't that the truth? You will be busy enjoying your call!

Introduction To CD-ROM

by Geoff Ashworth
Reprinted from Farrer, A.C.T.

The leaps and bounds that computer technology is taking today would leave most scientists and programmers of last decade gasping for air, even though their chins would be on the floor. Back in the fifties and sixties when everyone thought that valves were pretty hot stuff, they could not have even dreamed that their so called 'supercomputers' such as the likes of ENIAC would be outperformed in only twenty years by a computer which could sit on someone's lap rather than taking an entire floor of an office building.

Well, whoever said that history never repeats was no optimist when it comes to technological breakthroughs. it seems that another major development in computer technology is set to change our outlook on what we can achieve if we keep pressing forward. This new development is not in he field of processing power or speed, or even another generation of computer, but of data storage. The CD-ROM disk, which is smaller than a 45rpm record, is destined to become the David of a computer environment filled with Goliaths.

CD-ROM, standing for Compact Disk Read Only Memory, brings a new series of hardware and media into the field of mass data storage. It claims a storage density upwards of 500 megabytes on a disk that is smaller than a 5 1/4 inch floppy disk. The secret? Laser technology!

The Old and the new

Most computers today rely on some type of magnetic writing device and media to store the bulk of their data onto. This method of data storage is a fairly inefficient by comparison to what is now unfolding. The reason for this inefficiency is that the magnetic field generated by the head of the read/write device cannot be focused into a small enough field of influence for compact and efficient data storage. If groups of data are put physically too close to each other on a magnetic medium, they can interfere with the domain of some of the ferromagnetic particles that may hold segments of important data. These ferromagnetic particles make up the data storage element of a magnetic medium and may be scrambled by any stray magnetic field resulting in the loss of readable data. if, in the other extreme, the groups of data are stored too far apart from each other, efficiency and economy are lost. What we really need is a new means of data storage that is easily written and read with greater density and speed then conventional magnetic means.

Laser technology puts an end to data loss and wasteful storage.

The Laser Disk, the data storage component of a CD-ROM disk, like an audio compact disk, is a reflective aluminum layer only about 500 angstroms thick which has been 'sputtered' on a body of plastic. Small 'data pits' are embossed into the surface of the disk to hold the data, which is yet to be written, and to help in keeping the laser on track when reading as well as acting as a timing element to keep the disk spinning at the correct speed. This last point is very important. The disk is recorded in a format known as 'Constant - Linear - velocity' mode. This means that equal amounts of data occupy equal lengths of the spiral track that makes up the disk. Unlike an LP record that spins at a constant speed (Constant-Angular-Velocity), a laser disk will spin at different speeds depending on what part of the disk is being read. For example, when reading a piece of data on the inside of the disk, the disk will spin faster than when reading a similar piece of data on the outside of the disk (About 500 RPM at the inside, and about 200 RPM at the outside).

Recording Data

A fine laser beam, only 780 nanometers wide, is used to burn a tiny hole or deformity into pits on the disk. This hole then represents a 1 bit, a 0 bit being no change in the surface of the disk. At this time, some manufacturers choose to write additional data in to the disk such as block-headers and sector- dentification labels. These pieces of data can also be embossed when the disk is initially molded.

Reading a Disk

Data from a laser disk is read by a very low-powered laser (usually less than 5 milliwatts). The beam of laser light firstly travels from the laser itself, through a series of lenses, mirrors and prisms onto the disk. When the laser light strikes a pit, the polarity of the light changes. This newly polarized light travels back along the path whence it came to a special prism called a Wollaston prism. This diverts the data carrying light onto a photosensitive device, which then decodes the laser light into a digital signal, ready to be transferred to the computer.

No Errors

Along the way, the laser light meets several error correcting techniques. Firstly, the laser beam must be kept in sharp focus to be able to see through dust and grease on the outer protective layer of the disk, yet be able to pick up every bit of data. A beam of laser light that is out of focus can be detected if, when the beam is passed through a certain prism, the resulting pattern on a set of four photosensitive cells is not circular. This information is then passed along to a 'voice-coil' lens which brings the beam back into focus by moving up or down.

The second technique of error detection is of a laser beam that is 'off-track' i.e. is not directly over the pits. Two lower- powered laser beams either side of the main beam look to see if one or the other is in a pit. If one is, then they signal the tracking mirror to rotate to put the main beam back into line.

The third kind of error trapping is not a hardware one, but one which uses software that is internal to the CD-ROM player. This technique is known as the Reed Solomon Cross Interleave Code (CIRC). This error correction technique is useful on disks of less than perfect quality, such as ones that are warped.

Beyond CD-ROM?

The major drawback to CD-ROM is, as the name implies, that it is Read Only. Currently, though, scientists are working on designing laser disks which are capable of being written and erased many times over. One such process that may allow this breakthrough is called magneto-optical recording'. This process, as you may have guessed, involves the combined use of both magnets and laser light. The process works like this. Firstly, the general area that is to contain a pieceof data is temporarily magnetized. then, the precise spot is heated to a specific temperature called the 'Curie' point by a powerful laser. This has the effect of magnetizing only the spot that was heated by the laser light, not the whole area that was under the magnetic influence. Once fully written, the data can be read optically because of a special phenomenon discovered by Sir Michael Faraday. He found that light reflected from a magnetized surface is polarized slightly. This small polarization allows a photoelectric cell to differentiate between the normal laser light and the polarized laser light. Because the spot is magnetized, it can easily be erased and written over again and again.

Epilogue

The advances that laser technology has brought to the field of computer mass storage is certainly destined to change it dramatically. Just think of it, a twenty-four volume encyclopedia, every game you own, the entire works of William Shakespeare, a road map of any point in the world, a telephone directory all in the palm of you hand. It is very possible that in the very near future that every computer in the world, whether it be small or large, will use laser disks for all of their storage and accessing needs, and the only place that you will be able to see a floppy disk will be in a museum, alongside ENIAC.

References

R. S. Shuford BYTE - November 1985 'CD-ROM's and Their Kin'

T. Onosko CREATIVE COMPUTING - September 1985 'Let There Be Light'

N. Friedland ANTIC - October 1985 'Bookshelf on a Laser Disk'

TextPro: An in depth review

by Brad Davis
Associate Editor

TextPro, from Abacus Software, is billed as 'the Complete wordprocessor for the ST'. Well, a sage once said that the ultimate test of a wordprocessor is whether the review is written using it. If that's true, then TextPro certainly passes the test, because I am using it to write this review as well as everything else I write these days.

TextPro is a GEM based full screen editing word processing program. Full screen editing means that you get more flexibility in your editing and formatting, but you sacrifice the convenience of seeing the final form of your document as you write it ala 1st Word. TextPro does, however, give the user a 'preview' mode to help you format your document. This mode allows you to 'print' a document to the screen the same way it would go out to the printer. You can then go back and make changes and preview again until you are satisfied with your documents appearance. For some, this approach may seem primitive after using 1st Word with it's 'what you see is what you get' screen format, but believe me, the flexibility is more than worth the change.

TextPro offers a full menu of special text features, punctuation and formatting commands. Most o these commands are accessible from the keyboard as well, allowing the user who finds the mouse too slow (as I do) to use the p[rogram with control and escape key sequences. A feature not found on any other word processor is a C source option. This option automatically indents when a grouping type character is entered (i.e. a bracket), and a full set of function key defintions are included with definitions for most of the often used declarations. There is also a set of math and foreign function key sets, allowing access to the set of non-ASCII Atari key definitions. In addition the user may define his own set of function key definitions and may load one after another as they are needed during document editing or creation.

TextPro offers a complete selection of block operations, as well as a search and replace function that allows auto search and replace (akin to global search on other programs). There is also a sort function to sort tables in the order the user prefers. A placeholder character allows insertion of names and addresses, allowing mail merge operation in conjunction with a text file of information to be inserted.

TextPro supports three different type sizes; 10, 12 and 15cpi. There is also a set of nine user

definable commands that may be used for any purpose. The manual suggests these could be used to customize the program to take advantage of special printer capabilities. A welcome feature for those who have non-Epson compatible printers. There is a second type of placeholder character which allows the user to place the current system time and date in his document. No more changing dates in your re-usable correspondence.

TextPro supports right, left and margin justification, as well as word wrap and auto hyphenation. The formatting menu allows manipulation of the margins, headers, footers and supports multi column printing. Auto page numbering is supported also.

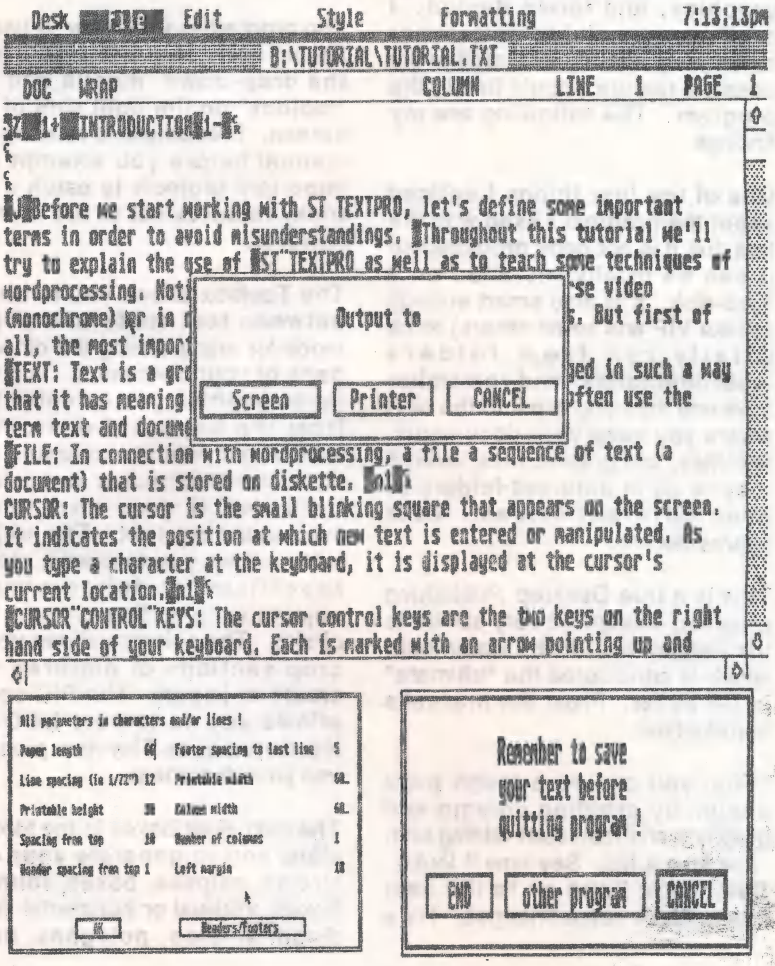
TextPro supports output in two ways. First, the user may output directly from the program itself, to either the screen or the printer. Second, TextPro supports the OUTPUT.PRG method ala GDOS. This allows multiple file printing, and also allows sideways printing with Epson compatible printers. The output program also allows output to the disk or to a 'Textdesign' file for later inclusion in TextDesigner, the Abacus page layout program. Mail merge operations are also carried out from the output program.

Of course, every program has it's down side. TextPro's are few, but there are some irritating problems. First, the indent feature. It just doesn't work. This is bad, but what is worse is that because of the full screen editing format, spacing is not constant. This means that if the user wants to indent a paragraph five spaces, he can't just use the spacebar. The way to indent until this bug is fixed is to use the <SHIFT>+<SPACE> keys to insert a 'hard space' character. The technician I spoke with at Abacus stated that a fix to the indent feature was on the way. Second, files from other word processors are sometimes hard to convert. There is a program to convert 1st Word files, and it works fairly well. STWriter files however are basically unusable. I think I must say that Abacus has gone out of it's way to allow file conversion, as most WP programs don't even address this problem. Third is the fact that the cursor erase the left window border when the program initializes itself. This may be intentional or just the consequence of attempting to use as much of the screen as possible, but it just looks funny. It does not affect text in any way. The manual is small and not very helpful. Documentation is always a problem when writing software, and is usually the 'weak link'. TextPro's manual is adequate, but if rather terse. Don't expect much more than a quick blurb on what each feature does. Abacus does provide a large tutorial on disk, but it is mainly concerned with showing you what the program can do, not how to do it. Lastly, TextPro is copy priotected. However Abacus has chosen a unique method. If you copy the disk, the program is still usable, but the save and output to printer features are disabled. Still, I think copy protection cripples a program because of the problems with hard disk use

This program is well thought out, well conceived and well executed. It combines the best of the wordprocessor and the best of the stock text editor to form a powerful editing tool. As I said earlier, I use it exclusively for my wordprocessing and editing chores. Overall, I would have to say that TextPro is the best wordprocessing program available for the ST bar none.

The price for what you get is outstanding. Abacus has shown that it can do with software what it has done with it's books. Give a great value for a reasonable price.

TextPro
Abacus Software
P.O Box 7219
Grand Rapids, MI 49510
Ph (616)241-5510



PUBLISHING PARTNER

by Bruce Hansford

reprinted from L.C.A.C.E. Newsletter

Publishing Partner is the newest entry into Desktop Publishing for the ATARI ST. It is produced by SoftLogic Corporation of St. Lewis. It is a mouse-driven program that is a combination of typesetting, graphics, and forms design. I produce our club's newsletter exclusively with PP and used every possible feature I could find in the program. The following are my findings.

One of the first things I noticed about the program I liked was the fact that it is not copy protected so it can be totally installed on a hard-disk. It is also smart enough (unlike VIP and some others) to be totally run from folders (sub-directories) and remember from one time you run it to the next where you keep your documents, text files, and graphic files, even if they're all in different folders or even different drives. That impressed me.

This is a true Desktop Publishing program, configured very similar to the Pagemaker for the Macintosh, which is considered the "ultimate" in DP so far. From the manual's introduction:

"First you can do a rough page design by creating column and graphics and then start adding text. See how it fits. See how it looks. See how it flows on to the next page. Make some changes. Try a different type face, or a different size, or some borders, or even some pictures. You'll see instantly if your new idea works or not." This is known as a WYSIWYG type program (What You See Is What You Get) that shows on the screen what your final product will look like in print.

The program is very easy to use as almost everything is available from the drop-down menus and the "toolbox" on the right side of the screen. I recommend reading the manual before you attempt any important projects to catch a few tricky features not in the menus, however.

The Toolbox allows you to switch between text mode and object mode for manipulating the different parts of your document. The text mode enables you to enter text from the keyboard or from an ASCII text file into columns you have established or outside of columns if you want more free-standing text. The object editor allows you to create, resize, reposition, or delete graphic objects such as lines, boxes and circles. The scissors allows you to crop sections of pictures you create or import. The PIC option allows you to import DEGAS, NeoChrome, or Tinyview pictures into your document.

The next eight boxes in the toolbox allow you to generate your own circles, ellipses, boxes, rounded boxes, vertical or horizontal lines, diagonal lines, polygons, or do

freehand drawing on your document.

The next section in the Toolbox controls page manipulation. It allows you to establish "master page(s)" which enable your to create text or graphics that will be automatically duplicated on each succeeding page. You can do a single or double master page. The single will duplicate on every page following the first. The double will allow opposite page differences for book-type output (ie. every other page duplication of features). You can move from page to page or type in a page number and go directly to that page.

The last three items in the Toolbox are LINE, FILL, and COLOR. LINE allows control of line type (solid, dashes, dotted, etc.) and line width. You can even create your own line style with the line editor. The line type you choose will be used when generating any of the above mentioned graphic objects (ie. boxes, circles, etc.). The FILL option allows you to define the fill pattern you want to use for drawing circles, boxes, and ellipses. You can design your own full pattern also. The color option allows you to define the color you want when placing objects on the screen as well as color print-outs if you have a color printer!

The drop-down menus are File, Create-Layout, View, Style, Format, and Edit. The File menu starts you out when beginning a new document with the ability to select a page size and shape from 1 inch by 1 inch to 18 inches by 18 inches, double or single sided, portrait (vertical) or landscape (horizontal). You can load a previously made document, append to your existing document and save your document to disk. You can format a disk, delete files, and rename files (very hand features) from this menu also. Your printing options are in this menu as well, including selecting which printer driver you want to use and which port you will be sending to (or to disk file). You can indicate which pages or series of pages to print (ascending or descending), how many copies to print, whether to print full size or reduced size print, which colors to use, and whether or not to collate your printed output if you want more than one copy of a multiple-paged document. Then you can save this configuration to a config file so you don't have to re-create all of this the next time you want to generate a product. Pretty neat!

The program was created to take advantage of the ATARI GDOS for printing very high-resolution products. However ATARI has not published it's full GDOS yet, so you are limited to standard Epson-type printing which is a bit limited. The manual explains how to use the GDOS printing capabilities, but an addendum came with the manual telling you to ignore the GDOS portion of the manual until GDOS is published. I called softLogik and was told they have no idea when

the full version of GDOS will be available, but a program upgrade will be available as soon as GDOS comes out. Because of this limitation, you can only use the fonts that have a matching printer font file on the disk. There was only one on my copy of the program, Helvetica. If you use any of the other screen fonts such as standard, or Times, the printer driver will try to convert it to Helvetica and lose track of where it's printing and create all sorts of weird outputs. I know, I tried it. The very helpful gentleman that I talked to at the company said they are publishing a fonts disk with several more screen and printer fonts.

By the way, if you happen to have a Postscript type laser printer, you can print out a document of very good quality with this program. Isn't that what Desktop Publishing is all about? If you do not own a Postscript compatible device but know someone who does, you can load the Postscript output driver and select "Print to Disk" and send your print file to any postscript compatible printer and you can have a great laser-printed product anyway.

The create-Layout menu allows you to create the general outline of your document. You can create perfectly placed columns, generate automatic routing of text from column to column, establish tabs and snap-to guides (left justify lines for object orientation), insert pages, delete pages, insert objects into your master page from another page, insert automatic page numbering, and establish your measuring system (Picas, Inches, or Centimeters). The main drawback in this area is the inability to import or export previously created pages. This I found to be very annoying. You can save your work one page at a time, but that eliminates text flow from a column on one page to a column on another page.

The view menu allows you to view the page from several different perspectives. You can view 2 pages at a time, side by side on one screen (not very readable), or you can choose from several options; full page, 50%, actual size, 200%, fill width, or you can set your own user view scale and save that in your configuration file. You can bring the different objects (columns, text objects, or graphic objects) to the front if you have overlapping objects, or send objects to the back for different viewing effects. You can toggle the rulers which line up the left side and across the top of the document which can measure your document in inches, centimeters, or picas (1/6 inch) and shows hash marks on each ruler indicating your cursor position. You can show text routing indicators. You can toggle the Show Pictures option to enable faster screen refreshing without the pictures. Show Column Outline indicates exact column locations, and Show grid permits a background grid display behind your objects for positioning ease.

The Style menu enables you to choose from the available fonts and point sizes (from 3 to 216 points, where 72 points = 1 inch). You can also select the following attributes;

Backslant, Bold, Double Underline, Italicize, Light, Mirror, Outline, Reverse Text, Shadow, Strike Through, Tall (Double Height), Underline, Upside Down, and Wide (Double Width). You can click on one or more attributes and then what you type from then on will show those attributes. You can also highlight text and change the attributes by clicking on the ones you want.

The Format menu is sort of an extension of the Style menu. You can make your text Superscript, Subscript, or Baseline (normal) Script. You can change text to all upper case or all lower case. You can cause text to block left, center, or tight. You can have your text character justified (like newspapers do) or word justify (like a word processor). You can alter margins, line spacing and character spacing. You can also control manual kerning and hyphenating. Kerning is the character spacing between any two characters. One thing missing here is automatic hyphenation, which would be a very handy feature.

The edit menu allows you to delete highlighted text or text objects or graphics. You can search and replace text within columns, copy or move text or graphics to or from a copy buffer for simple manipulation of your document. You may also toggle the insert mode from this menu.

To top this all off, basically everything you can do in this program with your mouse (mostly everything), you can also do with keyboard commands using combinations of the Alternate, Esc, or Control keys with letter keys. This is what is commonly known as the "expert mode" for people who are very familiar with the product and want to work faster than using the mouse will allow. And even better, you can combine these keyboard combinations into "macros" to save to the function keys. A macro can contain up to 63 characters and can be used on any of the 10 function keys.

Publishing Partner has one serious drawback that I have not mentioned so far. It does not do "wrap around". That is, if you have a graphic or text object overlaying a column of text, you can not have the text wrap around the object. I would like to see this feature added in a future upgrade.

To run PP you need a minimum of 512K memory, one disk drive and TOS on ROM. It will run in medium or high res. In fact you get two disks with the program, one is the monochrome version and the other, the color version. As I only have a color monitor, I can only discuss that version. I was very happy with what I saw, even though I had to view my text in actual size to be able to read it. The mono version is most likely much clearer.

The manual is very easy to read and has a good reference section and full index. The entire manual was typeset with PP and printed

on a laser printer. Very impressive.

All in all, I found Publishing Partner to be a very useful, easy to learn, and easy to use program. The support available was impressive, as my call (after hours) was answered promptly and efficiently, and my problem (remember the printer font problem?) was recognized and solved instantly, courteously, and with no hassle. Considering the price, which is listed at $149 but if you look around, you should be able to get it for around $100, I would say that PP is an excellent value. If I were Info World, I'd probably rate PP at about an 8.0. If you ever put out any type of forms or just like to mess around with graphics and text on a computer, I highly recommend this product.

ASTUN Notes: We were considering our own review of this product when we came upon the above review by Bruce Hansford. We felt we could not explain the product better than he has done so we elected to use it. We have used both the color and monochrome versions. Both function about the same however we feel that for serious applications a monochrome version is a must. We agree, this is an excellent program for your dollar, especially if you do much publishing work. We will continue to use it until a better product is found. We do however have a wish list. Some of these items were addressed in the review. Here is a couple more. We would like to have the ability to move pages at will, we would also like to be able to group objects and move them as a group. Our greatest wish for the program is that we at ASTUN would like to see the print driver modified, or a print macro that will do quadplexing. Quadplexing is the ability to print two pages side by side in the way that they would be sent to the printers. The first page of the document will be printed with the last page by its side. A look at this magazine will let you know what we mean. In order for the folded magazine to have consecutive pages you must print them two pages on a page, one side with page numbers in ascending order, the other side in descending order. Overall however we at ASTUN feel that Publishing Partner is one of the best programs available to date for the ST. We feel it is an indespensible aid for anyone who works with text and graphic documents.

PUBLISHING PARTNER

WYSWIG

(What You See Is What You Get)

EasyDraw 2.0

Review by Brad Davis

EasyDraw version 2.0 from Migraph is the long awaited upgrade of version 1.0. Now don't get me wrong, version 1 was and still is a great program, but version 2 adds features that make your life easier and clean up some rough spots along the way. Oh, did I forget to mention that the price has been cut in half?

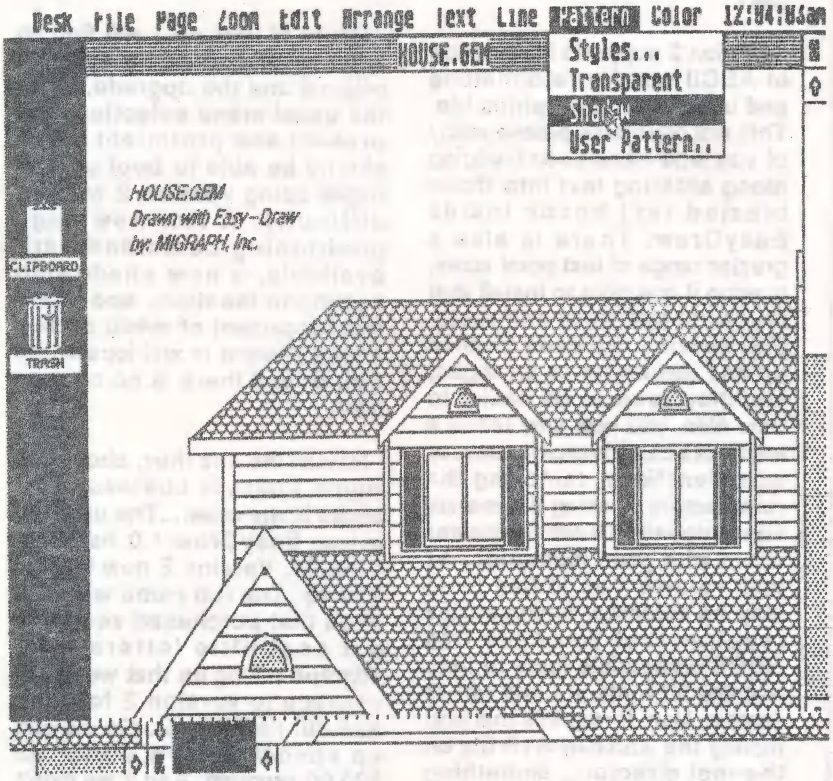
Version 2 supports importation of ASCII text for reformatting and use within a graphics file. This will doubtless please many of you who have been trudging along entering text into those blasted text boxes inside EasyDraw. There is also a greater range of text point sizes, making it possible to install that fine print into your contracts. The menus have been cleaned up and somewhat re-arranged, and they seem to be easier to use. Also, you now may utilize a keystroke combination to access most functions, removing the requirement of using the menus continuously. Great for power users with good memories. As with version 1 up to five fonts may be selected, however this requires that you have five GDOS compatible fonts to use, and GDOS fonts are still rather scarce. Also, it requires that you modify the ASSIGN.SYS file on the root directory, something that is not easy for the average user. This file is an ASCII list of what drivers and fonts to use for each screen resolution. You must change this list to reflect what fonts you wish to have available when you boot up, as this file is read by GDOS upon loading. I guess that users should become familiar with this file anyway, since all GDOS driven output will use this scheme in the foreseeable future.

Users of version 1 will find no amazing differences between the original and the upgrade. All of the usual menu selections are present and proficient users should be able to boot up and begin using version 2 without difficulty. A few new page positioning commands are available, a new shadowing command location, and some rearrangement of menu choice orders. Output is still located on disk B: and there is no change here.

Now to the one thing about this whole upgrade business that sticks in my craw....The upgrade price. EasyDraw 1.0 listed at $149.95. Version 2 now lists at $79.95. The rub came when all of us that purchased version 1 got neat little letters from Migraph telling us that we could upgrade to version 2 for only $25.00! (Whoopee). So we end up spending $175.00 for an $80.00 program. And if we didn't

upgrade by January, we had to pay $40.00! OK, I know that this is not quite fair. Migraph put a lot of work into version 1, and it really was worth $149.95 at the time. And I congratulate Migraph for putting out an upgrade and lowering the price at the same time(When is the last time you remember seeing that ?!). Everyone wins. Everyone, that is, except the people who supported Migraph with version 1 and payed twice the price! To be fair, Migraph should have upgraded all version 1 registered owners to version 2 for $5-10.00 at most. A fast buck at the expense of loyal and progressive users is bad medicine, folks.

All in all, version 2 seems to be a polished version of a solid program. I still use it for 85% of my illustration and graphics needs. It is sensible, fast and well thought out. My only wish is that pixel level graphics editing were available. I would like to be able to smooth figures and change individual pixels in objects, but heck, you can't have everything...or can you?



APRIL 1st PRESS RELEASE

For Immediate Release:
April 1, 1987

Intergalactic Technical Institute offers new computer peripheral device.

Following years of extensive research and development I.T.C. announces it's latest offering. This special computer can be attached to any personal computer in a variety of ways.

The computer, constructed using cellisters arranged to form the central processing unit. Cellister arrays are also used to form the record all, extract some memory.

The CPU is always multitasking. Different parts of the CPU control different input and output devices. Most of these devices can perform simultaneous operations. Unlike the time sharing schemes of high power computers this device processes many operations in parallel. it is true that some computers can perform operations faster than our device, but none come close to our processors ability to store and analyze data.

The CPU can be programed to perform in many different languages. It can even translate from any of its programed languages to any other language that it is programed for. Generally programing is fast and efficient. Outside events are used to decipher data and make appropriate conclusions. In many cases proper results are obtained even when vital pieces of important data is missing. This uncanny feet is just not possible with a conventional computer system.

Nothing evades the vast array of record all memory. Given the proper stimuli the memory can be recalled. An amazing marvel with this memory is that try as you might it will never overflow. There is room to store all of the data you would like. In fact it stores a lot of data you would like to forget. There is no way to erase this memory as long as this device is alive. You might be able to cover it up for a time, but it will always be available to haunt you given the right set of circumstances.

The device interfaces through an intricate array of system of fibers to various input peripherals. One such device has the ability to scan vast surroundings and transmit them as encoded images. Another can sense the vibrations that take place and encode it into a form of sound. Some sense changes in temperature, others changes in pressure. There is almost nothing that can happen in the vicinity of this device that its attached sensors do not transfer to the CPU.

Also interfaced to this fiber network array is the many output devices. One provides true speech by causing various movements within it' framework. Other parts of this device allow true movement. This device is truly mobile. In most cases it is very hard to keep in in one place for very long. It seams to want to move from computer to computer in a random fashion. For some reason it thinks it is the master.

In keeping with our motto of power without the price, this product is free. In fact you already have this great device. You also have the ability to create more of them. We leave it to you to figure out how. One must be cautioned however that maintaining this device requires a lifetime of effort. May you always keep yours in a healthy condition. And most of all may this device offer the latest advancements for your computer hobby.

An April Fools Reality from the staff of ASTUN.

GETTING YOUR 8-BIT ATARI TO TALK TO YOUR ST

By Rick Beetham

National Capital Atari User's Group.

Many new owners of the Atari ST have probably come across the problem of transferring files from their old 8-bit Ataries. In most cases, getting the ST to talk to their modem was just a matter of purchesing or building a cable, acquiring a terminal package, and them calling up the local BBS. After the initial thrill of getting the ST up and running they probably started to notice there is still a lot of good software available for the 8-bit machine. All they have to do is download it...Well, maybe they will reconnect the 8-bit machine to the modem and call back. Of course this is also the time when they will find that elusive ST subroutine they have been looking for so then they will have to disconnect, reconnect the modem to the St, recall the BBS, then ...

Of course, what about the disk subscription you have to Antic magazine? ow the heck are you going to get those ST programs off the 5.25" disk? Do you really have to upload all those files to the local BBS with your 8-bit then call back with your ST and download them back onto the 16-bit machine? Sigh, if only you had bought the 850 interface. Etc., etc

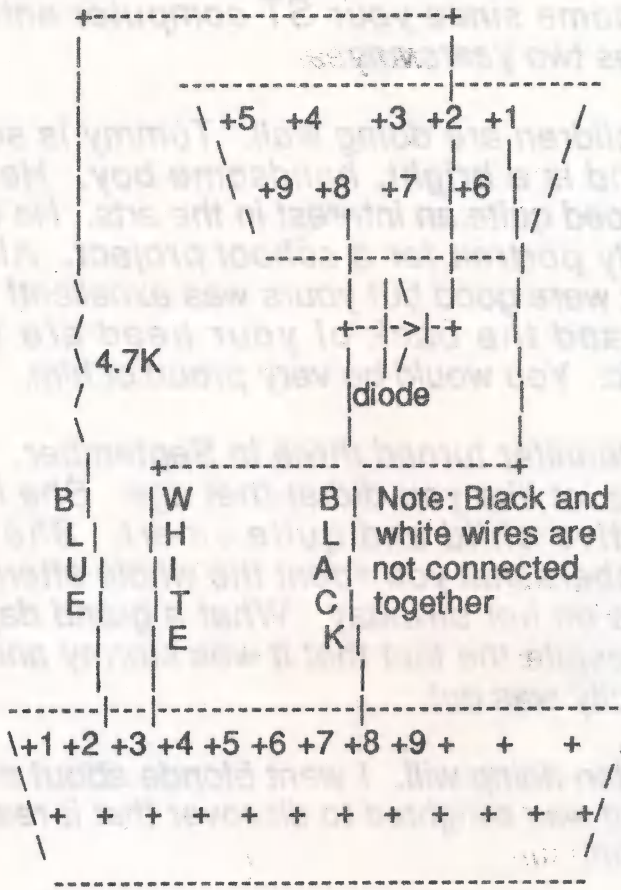
Well, here is an easier way to transfer files and you don't need an 850 interface; or two modems; or a friendly SYSop in order to do it. The solution is using a null modem cable. The cable gives you the very basr-bones RS232 configuration of a signal ground, a receive data, and a transmit data line. In order to make a null modem all one has to do is connect the receive data line from the 8-bit to the transmit data line of the 16 bit. Likewise the transmit data line from the 8-bit is connected to the receive data line on the 16-bit. Signal ground is common to both.

After building the null modem I then uset STTERM2 on my ST and Smartterm 5.0 on my 8-bit. I set both terminals to Xmodem protocol, 1200 bps, ASCII, and half -duplex. I sucessfully transfered several test files from one Atari to the other without fail.

The cost for the cable will be all of $13, and that is if you buy all your parts new from Radio Shack (Tandy). If you have an old Atari joystick, you can use the cable from that and save even more.

Parts List:

Atari joystick plug and cord
Length of 3 strand wire.
Switching Diode (Tandy part no. 276-1122)
4.7K 1/2 watt resistor.
25 pin RS232 Female Connector



TO MY DARLING HUSBAND

by W.J. Parsons
Diablo Valley PC News

I am sending you this letter in a bogus software company envelope so that you will be sure to read it. Please forgive the deception, but I thought you should know what has been going on at home since your ST computer entered our lives two years ago.

The children are doing well. Tommy is seven now and is a bright, handsome boy. He has developed quite an interest in the arts. He drew a family portrait for a school project. All the figures were good but yours was excellent! The chair and the back of your head are very realistic. You would be very proud of him.

Little Jennifer turned three in September. She looks a lot like you did at that age. She is an attractive child and quite smart. She still remembers that you spent the whole afternoon with us on her birthday. What a grand day for Jen, despite the fact that it was stormy and the electricity was out.

I am also doing will. I went blonde about a year ago and was delighted to discover that it really is more fun!

Lars, I mean Mr. Swenson, the department head, has taken an interest in my career and has become a good friend to us all. I have discovered that the household chores are much easier since I realized that you didn't mind being vacuumed but that feather dusting made you sneeze.

The house is in good shape. I had the living room painted last spring. I'm not sure if you noticed it. I made sure the painters cut air holes in the drop cloth so you wouldn't be disturbed.

Well, my dear, I must be going. Uncle Lars, Mr. Swenson, I mean, is taking us all on a ski trip and there is packing to do. I have hired a housekeeper to take care of things while we are away. She'll keep things in order, fill your coffee cup, and bring your meals to your desk, just the way you like it. I hope you and the ST have a lovely time while we are gone. Tommy, Jen and I will think of you often. Try to remember us while your disks are booting.

Love, Mary

Is There a Laser Printer In Your Future?

by Hal Baird
Reprinted from LAACE

One of the fastest growing segments in personal computing is desk top publishing. With a modest investment, you can produce commercial quality publications with ease. A large part of this is due to the capabilities of laser printers, which produce high quality text and graphics. Just what are these printers? And how do they work? Read on for a personal tour of the highlights of these amazing devices. There are three major parts to a laser printer. One part is the familiar copier mechanism, with paper trays, electrostatic drum, toner cartridge and paper feed. The next part is all high tech, a laser that writes on the drum to charge it up to pick up the toner for the paper. The copier and laser (the engine, so to speak) in most laser printers is made by Cannon, which is why they look so much alike externally. If you guessed that the third part is the brains to control the engine, you are right. The brain part is usually a M68000 computer, like the CPU in your ST computer.

The programming and interfaces to this controller determine most of the features that distinguish one printer from another. Memory varies from one half to several megabytes and this has important impacts on graphics as we shall see in a moment. ROMS are used for built in font definitions. Plug in cartridge ROMS and downloadable fonts expand the available fonts. Familiar RS-232 and Centronics parallel interfaces are available. Each manufacturer requires different escape sequences to control print format, font selection, underlining, etc. Even though it's only programming on the part of the manufacturer, you will find more arbitrary differentiation here than standardization. Fooey!

If you are used to dot matrix printers, the performance of a laser printer is phenomenal. Images are formed at 300 dots per inch producing typeset quality resolution that daisy wheels match only at their best. A complete page is printed in six to eight seconds, which works out to about 500 characters per second. And they are quiet. The only noise is some clicks and whirring from the paper transport mechanism. No more loud dot matrix squawk! Just the thing for those midnight projects while the family sleeps.

Laser printers are capable of a wide variety of character sizes and styles. In typesetter's terminology, each size and style combination is called a font. Typical styles are Courier and Elite (common on typewriters), Times Roman (some books) and Letter Gothic (business letters). Sizes can vary from six

point (1/12 inch) to 36 point (1/2 inch) high and spacings from six to 17 characters per inch. Add style variations like italics, bolding, superscripting and subscripting, portrait or landscape orientation and you can see that the possible font combinations are extensive. This choice can give your documents a personal style that best expresses your message.

But laser printers really shine in their graphics capability. Drawing a line or shading an area is just another dot pattern to the print engine. On printers with graphics memory, your program can download this pattern to produce your image. You can dream up your own image patterns if you wish, but at 300 dots per inch, be prepared to key in lots of bytes or dream up some pattern generation algorithms. Commercially available graphics programs are available with libraries of icons. They can also generate lines, circles, arrows, etc. on the screen and automatically build and download their bit patterns. Some can also merge graphics and text files at document build time.

As you might expect, this graphics capability uses up a lot of memory. An 8 1/2 by 11 page at 300 dots per inch needs about one megabyte of storage. Legal size paper needs even more storage. The most popular laser printer is made by Hewlett Packard and has a half a megabyte of storage, so a full page of graphics is not available there. Undoubtedly they are working on the problem.

All that graphics and font capability naturally results in more complicated programming to get the desired results. Twenty to thirty byte escape sequences are not unusual. If you are doing your own printer commands, a clear and comprehensive instruction manual can be a big help. To make life easier, some laser printers now emulate FX-80 and other popular printers.

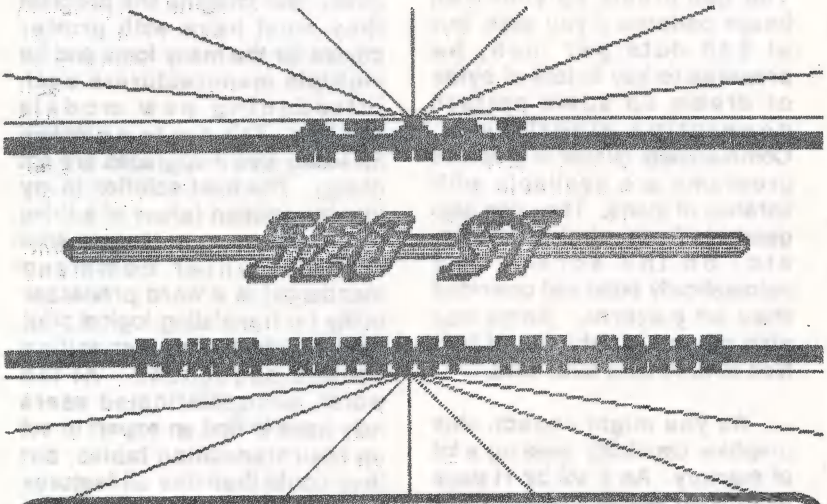
Word processing suppliers must both love and hate laser printers. Lasers make their product's output look really good. But imagine the problem they must have with printer drivers for the many fonts and for multiple manufacturers each introducing new models regularly. This can be a problem for users also if upgrades are not cheap. The best solution in my humble opinion (short of a firing squad for manufacturers who refuse printer command standards) is a word processor utility for translating logical print commands to user specified escape sequences. At the worst, unsophisticated users may have to find an expert to set up their translation tables, but they could then use all features available.

I have discussed some of the issues such as graphics storage and drivers above. What are the other considerations? The copier style paper feed restricts paper to standard sizes. Some

mail labels will peel off in the printer, so carefully follow the manufacturer's instructions. Also, laser printers are page printers, not line printers. Partial pages need a page feed to start the print. Laser printers are somewhat bulky and usually you need access to all three sides. This can make location a problem.

However, the biggest issue on laser printers is cost. List prices start at $2000 and average around $4000. Font cartridges are several hundred dollars and a toner cartridge can be $50-100. So far, laser printers are viable for businesses and the wealthy. Competition and technology will bring the price down, but how much is a guess. Perhaps by the time you read this Atari will be in there with laser power without the price.

We have seen laser printers from a technical point of view, now lets get back to the title of this article. Laser printers are great for image improvement. Imagine how your club's newsletter would look using a laser printer! I bet you would even have more than one volunteer for Editor! Programs like Print Shop could be used to make quality personalized greeting cards and meeting notices. You could even start a business at home doing document production or advertising copy. You could even.... You fill in the rest!



Wasatch Front AtariFest

Friday April 10th Noon to 8PM

Saturday April 11th 10AM to 6PM

Expo Mart

230 West 200 South Salt Lake City, Utah

Tickets: $3.00 At the door. (Bring this Ad for $1.00 discount)

1040ST WHINE

by Mark Sloatman

Reprinted from Bay Area Users Group

Does your 1040 whine? When you boot up do you get the mosquito repellant? If so this is for you. It is the "official" Atari 1040 power supply fix for units with a high pitched whine emitting from them. The problem is the switching power supply used for the RS-232 port. It is supposed to switch at around 18khz, but due to parts tolerance it sometimes falls lower than that, the result being an irritating audible "whine" or "squeal". It has falsely been described as "drive whine" and defective power supply modules. The circuity is actually on the motherboard. This mod also cures a video "flutter" which sometimes occurs. Faint horizontal bars float up and down the screen. If you are not faint of heart, here are the instructions for the modification.

NOTE: I do not recommend this mod if you are not familiar with electronics! You will be playing with the power supply, and if done incorrectly, could fry your ST! I am providing then information so the folks who are out of warranty can do it themselves. Also some dealers may not be familiar with the problem. I do not accept responsibility for any permanent mushroom clouds you may cause, though I will be happy to help out if things go wrong (advice!). Ok here goes:

Take the case off your 1040ST. Remove the power supply module. It's pretty straight-forward, as there is a plug for the wires. Untwist the grounding tabs on the shield and lift the shield off the printed circuit board. The parts to change are on the motherboard, beneath where the power supply was, and to the right of the ROM's.

Change:

Part No.	From	To
R17	1 Ohm	5 Ohms
L4	100 uH	220 uH
C28	100 pF	330 pF

Now, looking at the 1040 from the front, here is where the stuff is: R17 is a 1 Ohm resistor (Brown-Black-Black) and sits below C26 (yes, that IS a capacitor!). L4 is the resistor looking thingy (a molded coil) to the right of the IC, a TL497. Its' color code is Brown-Black-Brown. The capacitor C28 is located to the left of the IC, next to a larger black capacitor. It's color code is also Brown-Black-Brown. While these locations should be accurate, please note they could and may change at any time. It is very important for you to replace the correct components.

You will need a good soldering iron, solder, a de-sodering vacuum bulb/pump or solder wick or braid. The replacement parts should have a tolerance of plus or minus 5%. If not, it's time for the service center! The only part which is actually hard to find is the inductor (molded coil) L4. It is available form Newark Electronics. The part number is 35F1885 and is called a Deci-Ductoe. They cost around $4 each.

Well, that's about it. Hopefully after this point you will power up to a blissful silence and have saved $$$ to boot! Good Luck!

Star NX-10 and NL-10 Printers

by John King Tarpinian
reprinted from HACKS

For the past three months I have been the proud owner of two new Star printers. Let me start off by saying that I was never an SG-10 fan. I was a died in the wool Epson junkie. You will notice that I used the past tense. These new Star printers are fantastic.

I have had the NX hooked up to my XE and the NL hooked up to the ST. The printers are very similar so I will list the common features first. They have a Near Letter Quality, NLQ, mode that is second to none. Unless you are looking for it you cannot tell it is done on a dot matrix printer. The NLQ mode is a respectable 30 cps. Both machines have a draft mode of 120 cps. They have 9 pin heads. Both machines can produce pica, elite, condensed pica, condensed elite and italics. They have a 5K buffer standard.

These machines use push feed. The fully adjustable tractor is before the platen (roller). Because of this feature you do not waste a sheet of paper when you print. One of the best features of this machine is the single-shoet paper feeder that is standard. You can autoload either pin-feed or single-sheet paper with the flip of a switch.

Now for differences. The NL-10 has interface cartridges. You can order them for Parallel, Apple II, IBM, Serial or Commodore. I am using the Parallel cartridge. This makes the machine 100% Epson FX compatible. The NX-10 comes standard with a parallel interface built in. The machine has a dip-switch that allows for either IBM or Epson standards. This machine is also 100% FX compatible.

Both machines have front panels that can perform many functions. On the NX-10 you can select print pitch, typeface and draft mode (90, 96 or 136 cpi). You can even select left and right margins. Also you can form feed, line feed and micro-feed forward or reverse. There are two self tests and a hex dump. The NL-10 has all of the above features plus top of form set and an italics NLQ mode.

Are you ready for the only bad feature about the Star printers? They use an Epson type cartridge. You notice I said Epson type. They look the same but are not. You have to buy the Star ribbon, an Epson ribbon will not work. But then again, I can live with that.

The NX-10 retails for $349.00 and the NL-10 retails for $379.00 with one interface cartridge. Both machines can be found at a discount.

All in all these are fine machines. My old reliable Epson is now in the closet collecting dust. If you are looking for a new printer, put these two models at the top of your list.

Some Tips on Computer Care

by Martin Simi

Reprinted from Q.A.C.E. (Queensland ACE)

I thought I would share a few tips on the care and maintenance of your computer garnered over 16 years of Field Engineering experience.

Computers do not like to operate in high temperature conditions. They also have a hard time tolerating dusty and/or dirty environments.

Although we all do it (myself included), drinking a beverage around a computer is asking for trouble. Liquid of any type getting into the computer causes shorts, and can destroy your computer. If you do accidently spill something into your computer, the best course of action is to immediately turn it off. Then disconnect the power and take it to a service center.

A highly sugared beverage, besides causing shorts, will also gum up the keyboard. As it evaporates, it leaves behind the sugar. This is perhaps the worst kind of spill, because it can be potentially the most expensive to fix. Also eating around the computer should be discouraged, because of the crumbs that can fall into the computer.

Computers do not like a low humidity environment. Low humidity causes static electricity. Static discharge from you to your computer can cause many things, including damage. The usual problems caused by static discharge are two in number. You may lose the program in memory as the static discharge clears the RAM, or it can cause a disk to be wiped out and unrecoverable.

Conversely, high humidity can cause corrosion on the components in your system. The ideal humidity range is between 40% and 60%. The ideal temperature range is between 60 and 80 degrees. These figures are for an operating system. Higher and lower extremes can be tolerated for a system that is not running.

Smoking around a computer is detrimental to it's health. Ash can fall into the computer, (it filters into the smallest places), and causes intermitant shorts. Smoke leaves an oily film over everything. If this film gets thick enough, it can conduct electricity. This film can also build up on your monitor or TV, causing distortion.

A film build up on disks causes the disk head to become dirty more often, causing read-write problems. Smoke also contains particles which when present in a disk drive, creates an abrasive type action. This causes your read-write head to go bad sooner, and degrades your disk media.

The 40,000 volt charge on your color screen attracts dust to you monitor or TV. This should be cleaned regularly with a damp cloth while it is turned off. The outside of your printer and computer can also be cleaned with the same damp cloth. Dust covers should be used on all components when they are not in use.

To clean the head on your disk drive, it is not recommended to use an abrasive type cleaner. Most commercially available disk cleaners are of the abrasive type (check the label). Abrasive type cleaners cause excessive head wear. Isopropyl alcohol is recommended to clean the head on your drive. Do not use rubbing alcohol as it contains additives that leave a residue. 95% pure Isopropyl is available at your local drugstore for a nominal charge. Also pick up so cotton swabs to use with the alcohol.

If you remove the cover from your disk drive, (WARNING:removing the cover will invalidate your warranty), you can see the inside of your drive, and watch it while it operates. If you put a disk in the system and turn it on, you will note a little arm that drops down on the disk. This arm is the pressure pad that pushes the disk against the head. The head is directly underneath the arm.

With the disk drive off and unpluged, remove the disk, and scrub the head underneath the pressure pad with a cotton swab dipped in Isopropyl alcohol, followed with a dry cotton swab to dry off the head. Do this very gently so as not to harm the head. This is all that it takes to clean the head on your disk drive.

The quality of power available to your computer also has an effect on it. If power is very bad, it can damage your computer. Power problems usually show up as a direct result of power sags, and/or spikes. Brownouts are also no to healthy for your computer. If you are aware that a brown out is taking place, the best course of action is not to use the machine at all.

Power sags and spikes are caused by large users of electricity, on the same line, being turned on and off. For example appliances, motors, drills, saws, etc. Sags and spikes can cause damage to a system but usually they just cause funny things to happen to the program and the TV. You may lose a program, or it may lock up in a loop. Disks can also be wiped out during these occurances.

My Atari is on the same circuit as our washing machine, which causes my TV screen to shrink momentarily when it goes on. The Atari, however seams to be well protected against this type of occurance, and just shrugs it off.

While all the information above is accurate, if you do not understand anything, please do not attempt it, as I, or this publication, can not be responsible for and damage resul

An Intro to GFA BASIC

by Clay Gradis
reprinted from IO Connector

GFA BASIC is the new BASIC language for the ST, distributed by Michtron. It's structured (no line numbers and only one statement on a line), fast (uncompiled, it beats Pascal on some benchmarks), and furious.

The reasons why I chose GFA as the language for me are too numerous to describe. The lack of clumsy editing windows, the speed, and the powerful command set are foremost. GFA BASIC comes with a run-time package, which lets others use programs written in the language. Also, the GFA Compiler is out, and it is nice. The compiler, available at an additional cost of around $70, makes your GFA programs executable from the Desktop. Look for a review of the compiler in t a future issue of the newsletter.

GFA BASIC comes on a disk with the run-time package and several demonstration programs. The manual, while not problem-free, is generally clear and concise. There are some typos and errors in the current version, but Michtron has made an update file, which is available on any computer BBS, and also promises to provide an update of the entire manual for registered owners.

The build-in editor used by GFA BASIC is very nice. Support for mouse or keyboard-only are provided for, using the function keys. The editor is somewhat like Action! on the Atari 8-bits, with no line numbers. Only one command is allowed on a line, making code look like Pascal. Lines which go past the 80 column mark on the screen are scrolled outward on that line only. Since GFA is a tokenized, structured system, un-executable lines may not be entered. If you try to move the cursor off of a line which GFA can't interpret, a bell will sound and SYNTAX ERROR will appear at the top.

The only problems with the editor are 1) when you move the cursor down using the arrow keys, the column is set to one, all the way to the left, which can be irritating if you're used to the Action! style editor, and 2) you cannot insert a whole page of blank spaces to make room for new text. These problems are not very important, and the editor is generally easy to use.

And, boy, talk about a powerful command set. Here's how to do a GEM alert box: ALERT 2, "Do you want to quit?", 2, "YES/NO", ANSWER. The first parameter specifies an alert box with a question mark (?). The second is the string printed in the alert box. The third is the number of selection boxes,

up to three are allowed. The fourth parameter indicates which selector box, if any, will be 'highlighted,' and the fifth is the variable in which the selection the user made will be stored.

That's just an example of one of the many powerful commands. GFA BASIC support full GEM calls, and much more. Colors, redefinition of sprites and the mouse icon, GEM windows, disk functions, drop-down menus, and more are supported, also, along with all the standard BASIC keywords which we missed in 8K Atari BASIC on our 8-bit machines, such as Print Using, Mid$, string arrays, BLOAD, BSAVE, Inkey$, Dpoke/Spoke, Pause, String$, etc.

Believe me, that's just a short example. GFA definitely does have it all. Below is a short (and possibly confusing) example of using drop-down menus in GFA BASIC:

```
Dim A$(11)
A$(0)=" Desk "
A$(1)="---------------"
A$(2)=" About Demo    "
A$(3)="1"
A$(4)="2"
A$(5)=""
A$(6)=" Options "
A$(7)=" Load    "
A$(8)=" Save    "
A$(9)=" Quit    "
A$(10)=""
'
Menu A$()
On Menu  Gosub Test
Menu 7,2
Menu 8,2
Menu 9,2
Do
  On Menu
Loop
Procedure Test
  Menu off
  Value=Menu(0)
  If Value=2
    Alert 3, "Drop down menu!",1,
"Neat",var
  Endif
Return
```

The Dim command sets up memory for the array A$. All arrays must be dimensioned. The next eleven lines are storing text in the A$ array. Menu A$() tells the computer to use the A$ array as data for the drop down menus, and to activate them. In the program, at the top of the screen, you'll see the "Desk Options" menu headings. Moving your mouse over either will 'drop down' the other options.

On Menu Gosub Test tells the computer that if it ever hits on an On Menu Gosub command, it should jump to the procedure called Test. Note that names are used, instead of line numbers.

Menu 7,2, etc., set menu item number 7 (load) to light grey (unselectable).

The Do and Loop options put the computer in a loop, which can be exited by the Exit command. The On Menu command tells the computer to jump to the predefined procedure Test which was set up in the On Menu Gosub Test command.

In Procedure Test the command Value=Menu(0) gets the number of the selection in the drop down menu and puts it in the variable Value.

Menu Off selects the drop down menu or turns it off so that it is no longer highlighted.

The Alert command, as we have seen, sets up an Alert box. The Return command sends the program back to the nest command after the On Menu command within the DoLoop which puts it back in the endless loop, waiting for a selection from he drop down menu.

I hope that wasn't too confusing for you. GFA BASIC is really a nice language, easy to learn, and powerful. Finally there is a decent language for the ST. It's about time.

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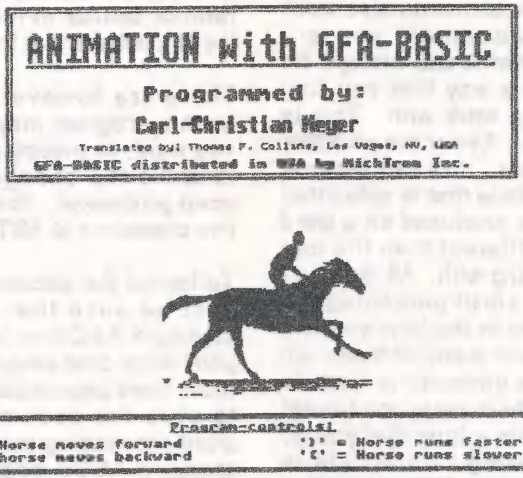
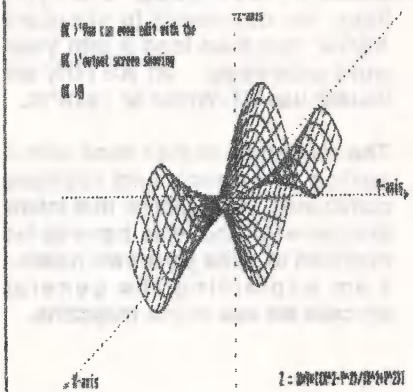
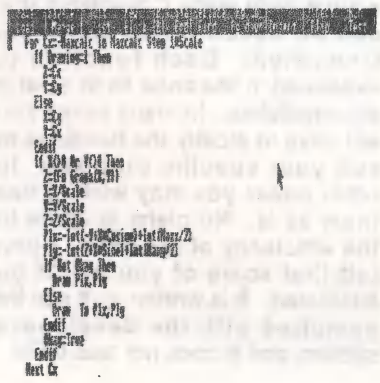
Pontiac, MI 48053

$79.95


ANIMATION with GFA-BASIC
Programmed by:
Carl-Christian Meyer
Translated by: Thomas F. Collins, Las Vegas, NV, USA
GFA-BASIC distributed in USA by MichTron Inc.
Program-controls:
'+' = Horse moves forward
'-' = Horse moves backward
')' = Horse runs faster
'(' = Horse runs slower





FORMATTING A DOCUMENT

By Ralph Porter

Being an editor of a newsletter sometimes causes unique problems, some causing a person to sit and dream of novel ways to over come them. This article is about one of the common happenings in the life of an editor.

Everyone knows that when you decide to use someone else work within the document you are preparing that it will always be formatted in a way that you find impossible to work with. This is especially true if your are an editor of a newsletter. You can assume that every article that is submitted to you will be produced on a word processor different than the one you are working with. All right so I lied, A very small percentage of articles will be in the form you like them, however many of them will not be. The dilemma is how do you modify them using the fewest commands into a form that you do like. Following this article is source code some C functions that can be used to help make the transition. Each function is explained in the code as to what it accomplishes. In many cases you will have to modify the functions to suit your specific purpose. In other cases you may wish to use them as is. No claim is made to the efficiency of the code. I just felt that some of you would be interested. It is written so it can be compiled with the developers system and it does not use GEM.

Users of compilers that work properly with the standard C I/O library may elect to remove the extra functions and macros as well as the gets statements in the program. The sscanf functions would then simply be changed to scanf.

If you have publishing partner the latest version contains a program to help by stripping carriage returns similar to the way one of the C functions that follows will do.

There are however times when such a program may not do what you want, or maybe you just want to make the changes with your word processor. We oftimes use this procedure at ASTUN.

To format the document you must first be sure that the files is standard ASCII or in a form that your word processor will accept. Most word processors allows you to save the document in a non word processing mode. This is a standard ASCII mode. Once you have the document in standard ASCII, you then load it into your word processor. At ASTUN we usually use ST-Writer or TextPro.

The formatting is then done with a series of search and replace commands. The actions that follow are general and may have to be modified to suite your own needs. I am explaining the general process we use in this magazine.

First we scan the document. If it contains tables and/or charts then we must use search and replace commands with query or else copy the charts and tables to a buffer before proceeding. The size of the document and number of charts are used to determine which method you use. If no charts or tables exist or if they are temporarily placed into a buffer then the global search and replace may be used. If possible we prefer the global commands because it requires many less keystrokes and is performed much faster.

Second in scanning the document the following should be noted. Is the document indented. If so We first remove indenting. To do this do a Global search and replace for the return key followed by the number of spaces that are indented. Replace them with a carriage return only. Then ask yourself if the spacing is right. If not, maybe the document is double spaced, and you want single. If so search for all double carriage returns and replace them with a single one. The next question involves justification. If the document is justified on the left then you probably have places with more spacing than you want, especially if you want the most effective reformatting to take place. To remove them search for all double spaces and replace them with a single one. This step may have to be repeated more than once to accomplish the task. If your paragraphs began with an indent then this process has caused improper indentation. To restore it search for the string carriage return space and replace it with carriage return and the number of spaces you desire for the paragraph indents. The process has also removed the common two spaces that follow a period. Simply search for period space and replace it with period space space.

At this point the document probably looks more like what you wanted however it may be a seventy column document and you wanted a forty column one. Trying to reformat it now will leave carriage returns where you may not want them. The next few steps will remove all carriage returns except the ones at the end of a paragraph. First look at the document. If it came from First Word or a similar word processor it has a space before each carriage return. If it is from most other sources no space will exist. This will affect your actions. First I make sure that all the carriage returns that I want to have remain will do so. I search for double carriage returns and replace them with a symbol that my document does not use. I usually use a tilde "~". Then I search for the string carriage return space and replace it with tilde space. If a space precedes a carrage return I then search for carrage returns and replace them with nothing. Otherwise I search for carrage return and replace it with a space. Finally search for all tilde's and replace them with a carriage return.

TEXT MALIPULATION FUNCTIONS IN C

by Ralph Porter

```
#include <stdio.h>
#include <osbind.h>
#include <ctype.h>
#define NULL 0
#define gets(s) Getstr(s)

Getstr(s)
char *s;
{
    char a[82];
    a[0] = 80;
    Cconrs(a);
    strcpy(s,a+2);
}

/* This function strips carriage returns from ascii files in order to allow
 * reformating via a word processer or text formater.  It should not be
 * used on files contaning tables.  The following will occur.  All lines
 * following a carrage return with a space or tab will be  space expanded to
 * 4 places.  All multiple spaces except for this case will be reduced to a
 * single space.  If a space does not follow a carriage return one will be
 * inserted in place of the carrage return.
 * The function will replace the file extension with wpf for the output file.
 * if it is aready wpf it must be renamed.  An error message will occure if
 * a file with the wpf extension is tried.  No checking is done to ensure a
 * file is not being overwritten.  Caution should therefore be used.
 * The file name is the only thing passed to this function.
 * the file name is actully changed by this function and is not restored
 * to its origional name.  This is to allow logical flow into other functions
 * to further reformat the text.
 */

strip_cr(fname)
char *fname;
{
    FILE *fopen(), *inptr, *outptr;
    char c1, c2, c3;
    int i, cr=0;
    inptr = fopen(fname,"r");
    change_fname(fname,"wpf");
    outptr = fopen(fname,"w");
    c1 = fgetc(inptr);
    while((c2 = fgetc(inptr)) != EOF)
    {
```

```
            switch(c2)
            {
            case '\r':
                  continue;
            case '\n':
                  fputc(c1,outptr);
                  if(c1 == '\n')
                        cr = 1;
                  break;
            case ' ':
                        if(c1 == '.')
                              fprintf(outptr,". ");
                        else if(c1 == '\n')
                        {
                              c3 = fgetc(inptr);
                              if(c3 == ' ')
                                    fprintf(outptr,"\n   ");
                              ungetc(c3,inptr);
                        }
                        else if(c1 != ' ')
                              fputc(c1,outptr);
                  break;
            case '\t':
                  if(c1 == '\n')
                        fprintf(outptr,"\n   ");
                  c2 = ' ';
                  break;
            default:
                  if(c1 != '\n')
                        fputc(c1,outptr);
                  else if(cr)
                        cr = 0;
                  else
                        fputc(' ',outptr);
            }
            c1 = c2;
      }
      fclose(inptr);
      fclose(outptr);
}

/* This function will take a word processing file and create a file with
 * carrage returns inserted at appropriate places to insure that the
 * lines in the file do not exceed the specified length.
 * The file extension will be changed to fln.  This file extension will
 * fail if sent to the program.  No checking is made to prevent  a file
 * from being overwritten so caution must be exercised.
 * The file name is actually changed by this function to allow simple
```

```
 * logical flow to other functions to continue reformating of the file.
 */


cut_line(fname,len,justify)
char *fname;
int len, justify;
{
        FILE *fopen(), *inptr, *outptr;
        char s1[256], s2[512], s3[256], c;
        int i, j, k, change = 0;
        len--;
        inptr = fopen(fname,"r");
        change_fname(fname,"fxl");
        outptr = fopen(fname,"w");
        strcpy(s2,"\0");
        while(fgets(s1,len + 2,inptr) != NULL)
        {
                strcat(s2,s1);
LONGSTR:
                if(strlen(s2) > len)
                        for(i=len;s2[i] != ' ';i--)
                                ;
                if(i < 1)
                        i = len;
                if(strlen(s2) > len)
                {
                if(s2[i] == ' ')
                        strcpy(s1,s2 + i + 1);
                else
                        strcpy(s1,s2 + i);
                s2[i] = NULL;
                }
                else
                        strcpy(s1,"\0");
                c = fgetc(inptr);
                if(c != EOF && justify == 1 && strlen(s2) > len * .75)
                {
                        while(strlen(s2) < len)
                        {
                                if(s2[0] == ' ')
                                        j = 5;
                                else
                                        j = 0;
                                while(s2[strlen(s2)] == ' ')
                                        s2[strlen(s2)] = NULL;
                                change = 0;
                                for(k=strlen(s2);k > j;k--)
```

```
                        {
                            if(s2[k] == ' ')
                            {
                                change = 1;
                                strcpy(s3,s2 + k);
                                s2[k] = NULL;
                                sprintf(s2,"%s %s",s2,s3);
                                while(s2[k] == ' ')
                                    k--;
                            }
                            if(strlen(s2) == len)
                                break;
                        }
                        if(change == 0)
                            goto NOCHANGE;
                    }
                }
NOCHANGE:
            fprintf(outptr,"%s\n",s2);
            strcpy(s2,s1);
            if(strlen(s2) > len)
                goto LONGSTR;
            ungetc(c,inptr);
        }
        fprintf(outptr,"%s\n",s2);
        fclose(inptr);
        fclose(outptr);
}


/* This function will add or change the file name extension
 * The origional file extension lost.  If you still need it be sure to
 * copy it to another string before calling any of these text functions.
 * If the file name fed to the function already contains the extension
 * you are trying to give it an error is printed and program execution
 * is stoped.
 */
change_fname(fname,ext)
char *fname, *ext;
{
        int i;
        char newname[15];
        strcpy(newname,fname);
        for(i=0;newname[i] != 0;i++)
            if(newname[i] == '.')
            {
                strncpy(newname,fname,i);
```

```
                newname[i] = 0;
                break;
            }
        strcat(newname,".");
        strcat(newname,ext);
        if(strcmp(fname,newname) == 0)
        {
            printf("File extension %s not allowed. Rename file and
retry.\n",ext);
            exit(-1);
        }
        strcpy(fname,newname);
}

/* This function will produce multi column output from single column files.
 * Several options are fed to this function to direct it's operation.
 * fname is a character pointer pointing to the file to be modified
 * col is the number of character columns in each column
 * len is the total number of lines per page
 * prt is the number of lines printed per page
 * spc is the number of spaces inserted between columns
 * justify if 1 justifies text, if zero no justification is performed
 *       if 2 it assumes file is preforamted to proper line length
 * The results of this routine is placed in a file with the same name as
 * the file fed into it.  The file extension is changed to ".fmt".  The
 * origional file remains unchanged.  If the justify option is set to 1
 * tempary files are created by functions called by this function.  The
 * tempary files are then deleted.
 */

multicol(fname,col,len,pge,prt,spc,justify)
char *fname;
int col,len,pge,prt,spc,justify;
{
        FILE *fopen(), *inptr, *outptr;
        char intxt[1000][100], s[100];
        int i, j, k;
        i = j = k = 0;
        if(justify < 2)
        {
            strip_cr(fname);
            cut_line(fname,len,justify);
        }
        inptr = fopen(fname,"r");
        change_fname(fname,"fmt");
        outptr = fopen(fname,"w");
        for(i = ((pge - prt) / 2) ; i > 0 ; --i)
            fputc('\n',outptr);
```

```
    while(fgets(s,len+1,inptr) != NULL)
    {
NXTLOOP:
        if(i < (col * prt))
        {
            strcpy(intxt[i],s);
            intxt[i][strlen(intxt[i]) - 1] = NULL;
            i++;
        }
        else
        {
            for(i=0;i<prt;i++)
            {
                for(j=0;j<col-1;j++)
                {
                    fprintf(outptr,"%s",intxt[j * prt + i]);
                    k = strlen(intxt[j * prt + i]);
                    for(;k<(spc+len);k++)
                        fputc(' ',outptr);
                }
                fprintf(outptr,"%s\n",intxt[j * prt + i]);
            }
        j = i = 0;
        for(i = (pge - prt) ; i > 0 ; --i)
            fputc('\n',outptr);
        goto NXTLOOP;
        }
    }
    if(i % col)
        prt = i / col + 1;
    else
        prt = i / col;
    for(;i<len * col;++i)
        intxt[i][0] = NULL;
    for(i=0;i<prt;i++)
    {
        for(j=0;j<col-1;j++)
        {
            fprintf(outptr,"%s",intxt[j * prt + i]);
            k = strlen(intxt[j * prt + i]);
            for(;k<(spc+len);k++)
                fputc(' ',outptr);
        }
        fprintf(outptr,"%s\n",intxt[j * prt + i]);
    }
    if(justify < 2)
    {
        change_fname(fname,"wpf");
```

```
            unlink(fname);
            change_fname(fname,"fxl");
            unlink(fname);
            change_fname(fname,"fmt");
        }
        fclose(inptr);
        fclose(outptr);
}

/* Function Main set up as a menu driven demo of these routines */

main()
{
        char fname[15], tststr[5], s[80];
        int columns, linelength, printlines, pagelength, spaces, justify;
        printf("\n\n\nEnter file name: ");
        gets(fname);
        printf("\nEnter number of columns: ");
gets(s);
        sscanf(s,"%d",&columns);
        printf("\nEnter column lenght in characters: ");
        gets(s);
        sscanf(s,"%d",&linelength);
        printf("\nEnter spaces between columns: ");
        gets(s);
        sscanf(s,"%d%*c",&spaces);
        printf("\nEnter number of printed lines per page: ");
        gets(s);
        sscanf(s,"%d",&printlines);
        printf("\nEnter total number of lines per page: ");
        gets(s);
        sscanf(s,"%d",&pagelength);
        printf("\nRight justify text: (y/n)? ");
        gets(s);
sscanf(s,"%s%*c",tststr);
        if(toupper(tststr[0]) == 'Y')
                justify = 1;
        else
                justify = 0;
        printf("\nPlease Standby - File conversion is in progress.\n");
        multicol(fname,columns,linelength,pagelength,printlines,spaces);
        printf("\nConversion complete.  Output is in file %s.",fname);
printf(" (Press return to exit).\n");
gets(s);
}
```

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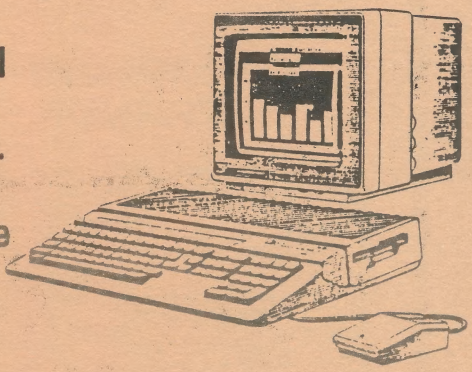

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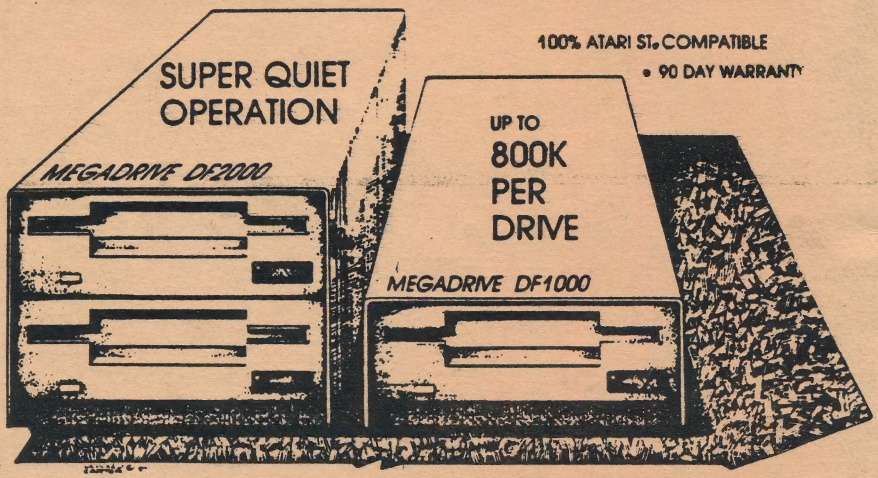

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